Glenn A. Lange
Best Chairs, Incorporated
One Best Drive
Ferdinand, Indiana 47532

Re: **123-10953**
Minor Source Modification to:
Part 70 permit No.: T123-7891-00013

Dear Mr. Lange:

Best Chairs, Incorporated, was issued Part 70 operating permit T123-7891-00013 on January 14, 1999, for the operation of a wood furniture manufacturing plant. An application to modify the source was received on May 11, 1998. Pursuant to 326 IAC 2-7-10.5, the following emission unit is approved for construction at the source:

One (1) Automatic Flow Coat Booth B2, with a maximum rating of 105 units per hour. Emissions shall be controlled by dry filter, then exhausted at Stack/Vent ID #B2.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Minor Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification in accordance with 326 IAC 2-7-10.5(e)(3) and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Melissa Groch or extension 3-8397, or dial (317) 233-8397.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
MMG
cc: File - Perry County
U.S. EPA, Region V
Perry County Health Department
Air Compliance Section Inspector- Ray Schick
Compliance Data Section - Melinda Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Minor Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name: Best Chairs, Incorporated
Source Location: Highway 66 East, Cannelton, Indiana 47520
County: Perry
SIC Code: 2515
Operation Permit No.: T 123-7891-00013
Operation Permit Issuance Date: January 14, 1999
Source Modification No.: 123-10953-00013
Permit Reviewer: Melissa Groch

The Office of Air Management (OAM) has reviewed a modification application from Best Chairs, Inc., relating to the operation of a wood furniture manufacturing plant.

History

On May 11, 1999, Best Chairs, Inc., submitted an application to the OAM requesting to construct a new surface coating booth to their existing plant after removal of an existing dip tank operation. Best Chairs, Inc., was issued a Part 70 permit on January 14, 1999.

Existing Approvals

The source was issued a Part 70 Operating Permit T123-7891-00013 on January 14, 1999. The source has since applied only for one source modification, 123-10953, and one permit modification, 123-11067.

The source has been operating under previous approvals including, but not limited to, the following:

(a) CP-123-4700-00020, issued on July 26, 1995; and

(b) CP-123-2121-00010, issued on October 3, 1991.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (inches)	Flow Rate (acfm)	Temperature (^{0}F)
B2	automatic flow coat booth	25	30	12,500	75

Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 11, 1999.

This modification will be considered a minor source modification because pursuant to 326 IAC 2-7-10.5(d)(6) it is a modification that is subject to a national emission standard for hazardous air pollutants (NESHAP) and reasonably available control technology (RACT), and these requirements are the most stringent applicable requirements for this type of modification. Although the new flow coater booth has a VOC potential greater than 25 tons per year, its addition does not affect the minor PSD source status as determined in the Part 70 permit issued on January 14, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations, page 1 of 1.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.."

Pollutant	Entire Source Potential To Emit (tons/year)	New Flow Coater Booth
PM	greater than 100	0
PM-10	greater than 100	0
SO_2	less than 100	0
VOC	greater than 100 and 250	greater than 250
CO	less than 100	0
NO_x	less than 100	0

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Entire Source Potential Emissions (tons/year)	New Flow Coater Booth
Toluene	greater than 10	0
Xylene	greater than 10	greater than 10
Glycol Ethers	greater than 10	n/a
Naphthalene	less than 10	less than 10
Ethyl Benzene	less than 10	less than 10
Reclaimed MIBK	greater than 10	n/a
TOTAL	greater than 25	less than 25

(a) The potential emissions (as defined in the Indiana Rule) of VOCs are equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential emissions (as defined in Indiana Rule) of any single HAP is equal to or greater than ten (10) tons per year and the potential emissions (as defined in Indiana Rule) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1997 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.00
PM-10	0.614
SO_2	0.00
VOC	109.00
CO	0.00
Nox	0.00
HAPs	not reported

Limited Potential to Emit

The table below summarizes the total source potential to emit, reflecting all limits, of the significant emission units.

Process / Facility	Limited Potential to Emit (tons/year)
	VOC
Surface Coating Operations	shall not exceed 250
Total Emissions	less than 250

County Attainment Status

The source is located in Perry County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Perry County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability- Automatic Flow Coater Booth

There are no New Source Performance Standards (326 IAC 12) applicable to the automatic flow coater booth.

The wood furniture coating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP),326 IAC 20-14, (40 CFR 63, Subpart JJ) with a compliance date of December 7, 1998.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart JJ.

Pursuant to 40 CFR 63, Subpart JJ, the wood furniture coating operations shall comply with the following conditions:

(a) Limit the Volatile Hazardous Air Pollutants (VHAP) emissions from finishing operations as follows:

(1) Achieve a weighted average volatile hazardous air pollutant (VHAP) content across all coatings of one (1.0) pound VHAP per pound solids; or

(2) Use compliant finishing materials in which all stains, washcoats, sealers, topcoats, basecoats and enamels have a maximum VHAP content of 1.0 pound VHAP per pound solid, as applied. Thinners used for on-site formulation of washcoats, basecoats, and enamels have a 3.0 percent maximum VHAP content by weight. Solvent and thinner mixtures used for other purposes have a 10.0 percent maximum VHAP content by weight; or

(3) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids; or

(4) Use a combination of (1), (2), and (3).

(b) Limit VHAP emissions contact adhesives as follows:

(1) For foam adhesives used in products that meet the upholstered seating flammability requirements, the VHAP content shall not exceed one and eight-tenths (1.8) pound VHAP per pound solids.

(2) For all other contact adhesives (except aerosols and contact adhesives applied to nonporous substrates) the VHAP content shall not exceed one (1.0) pound VHAP per pound solids.

(3) Use a control device to limit emissions to one (1.0) pound VHAP per pound solids.

(c) The strippable spray booth material shall have a maximum VOC content of eight-tenths (0.8) pounds VOC per pound solids.

(d) The source shall complete a work practice implementation plan within sixty (60) calender days after the source's compliance date as specified in 40 CFR 63.803. The plan must detail how the source will incorporate environmentally desirable practices into operation.

(e) A semi-annual summary report shall be prepared and submitted to IDEM, OAM, to document the ongoing compliance status of the wood furniture coating operations.

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)

The source has submitted an Emergency Reduction Plan (ERP) on December 16, 1996. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans).

326 IAC 2-2 (PSD Minor Limit)

The surface coating operations shall use no more than 20.7 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per month. This usage limit is required to limit the potential to emit of VOC to less than 249 tons per 365 consecutive day period. Compliance with this limit makes 326 IAC 2-2 and 40 CFR 52.21 (Prevention of Significant Deterioration) not applicable.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Automatic Flow Coater B2

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, the PM emissions from the automatic flow coater, B2, shall not exceed the allowable pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

326 IAC 8-2-12 (Surface Coating of Furniture)

Pursuant to 326 IAC 8-2-12, the surface coatings applied to wood furnishings shall utilize only the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High volume low pressure spray is an acceptable alternative application of air-assisted airless spray. High volume low pressure (HVLP) spray means technology used to apply coating to a substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The automatic flow coater, B2, has applicable compliance monitoring conditions as specified below:

(a) The dry filters for PM control shall be in operation at all times when the automatic flow coater (B2) is in operation.

(b) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the automatic flow coater stack B2 while in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Monthly inspections shall be performed of the coating emissions from stack B2 and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

These monitoring conditions are necessary because the automatic flow coater, B2, for the surface coating operation must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations, Appendix A, page 1 of 1.

Conclusion

The operation of this automatic flow coater shall be subject to the conditions of the attached proposed **Minor Source Modification No. 123-10953-00013**.

Appendix A: Emissions Calculations
Emission Calculations for the Automatic Flow Coater Booth

Company Name: Best Chairs, Inc.
Plant Location: Highway 66 East, Cannelton, IN 47520
County: Perry
Permit #: T123-10953
Plant ID: 123-00013
Permit Reviewer: Melissa Groch

HAPs

Material	Density (lb/gal)	Gal of Mat (gal/unit)	Maximum (unit/hr)	Weight % Toluene	Weight % Xylene	Weight % Naphthalene	Weight % Ethyl Benzene	Toluene Emissions (tons/yr)	Xylene Emissions (tons/yr)	Naphthlene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	TOTAL HAPs (tons/yr)
AUTOMATIC FLOW COATER												
Solvent 150	7.49	0.0000	105	65.29%	0.00%	0.00%	0.00%	**0.00**	0.00	0.00	0.00	0.00
KRD-1222 Thinner	6.63	0.0000	105	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Acetone	6.60	0.0000	105	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Hunter Green Flocoat Stain	6.63	0.0725	105	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00
Dark Oak Flow Coat Stain	7.14	0.0725	105	0.00%	7.00%	1.00%	1.00%	0.00	16.66	**2.38**	2.38	**21.43**
County Line Cherry Flo Co	7.22	0.0725	105	0.00%	5.00%	0.00%	0.00%	0.00	12.04	0.00	0.00	12.04
Oak/Maple Stain	7.34	0.0725	105	0.00%	1.00%	0.00%	0.00%	0.00	2.45	0.00	0.00	2.45
Dark Oak Stain	7.50	0.0725	105	0.00%	8.00%	0.00%	0.00%	0.00	**20.01**	0.00	0.00	20.01
White Wash Flocoat Stain	8.47	0.0725	105	0.00%	6.00%	0.00%	1.00%	0.00	16.94	0.00	**2.82**	19.77
Medium Oak Flocoat	7.32	0.0725	105	0.00%	6.00%	0.00%	1.00%	0.00	14.64	0.00	2.44	17.08
							Total Single HAP:	**0.00**	**20.01**	**2.38**	**2.82**	**21.43**

Methodology
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

VOC and PARTICULATE

Material	Density (lb/gal)	Weight % Volatile (H20& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	Controlled Particulate Potential tons/yr	lb VOC /gal solids	PM Control Efficiency	Transfer Efficiency
AUTOMATIC FLOW COATER																		
Solvent 150	7.49	100.00%	0.00%	100.00%	0.00%	0.00%	0.0000	105	7.49	7.49	0.00	0.00	0.00	0.00	0.00	ERR	70%	100%
KRD-1222 Thinner	6.63	100.00%	0.00%	100.00%	0.00%	0.00%	0.0000	105	6.63	6.63	0.00	0.00	0.00	0.00	0.00	ERR	70%	100%
Acetone	6.60	100.00%	0.00%	100.00%	0.00%	0.00%	0.0000	105	6.60	6.60	0.00	0.00	0.00	0.00	0.00	ERR	70%	100%
Hunter Green Flocoat Stain	6.63	95.63%	0.00%	95.63%	0.00%	0.00%	0.0725	105	6.34	6.34	48.27	1158.37	634.21	0.00	0.00	ERR	70%	100%
Dark Oak Flow Coat Stain	7.14	89.36%	0.00%	89.36%	0.00%	0.00%	0.0725	105	6.38	6.38	48.57	1165.68	638.21	0.00	0.00	ERR	70%	100%
County Line Cherry Flo Co	7.22	86.49%	0.00%	86.49%	0.00%	7.87%	0.0725	105	6.24	6.24	47.54	1140.88	624.63	0.00	0.00	79.35	70%	100%
Oak/Maple Stain	7.34	97.75%	0.85%	96.90%	0.75%	1.27%	0.0725	105	7.17	7.11	54.14	1299.45	**711.45**	0.00	0.00	560.04	70%	100%
Dark Oak Stain	7.50	84.50%	1.18%	83.32%	1.06%	8.08%	0.0725	105	6.32	6.25	47.57	1141.69	625.08	0.00	0.00	77.34	70%	100%
White Wash Flocoat Stain	8.47	78.11%	0.00%	78.11%	0.00%	9.01%	0.0725	105	6.62	6.62	50.36	1208.73	661.78	0.00	0.00	73.43	70%	100%
Medium Oak Flocoat	7.32	88.57%	1.49%	87.08%	1.31%	6.42%	0.0725	105	6.46	6.37	48.52	1164.58	637.61	0.00	0.00	99.29	70%	100%

Methodology
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hr) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total Emissions = Sum of all numbers
Total = Sum of all Gallons of material (gal/unit)
Weighted Average = sum of [gallons of material (gal / unit) / total (gal / unit) * Pounds of VOC per gallon of coating less water]

	VOC	PM10	PM10
Total Potential Emissions	**711.45**	**0.00**	**0.00**